

**AMENDMENTS TO THE CLAIMS**

1. (Withdrawn) A method for dynamic IP address allocation, which is for a mobile subscriber station receiving an IP address allocated thereto in a wireless portable Internet system, the method comprising:

- (a) the mobile subscriber station performing initial ranging upon entering a first base station;
- (b) performing an authentication with the first base station;
- (c) transmitting a registration request message including mobile IP version information to be used to the first base station;
- (d) transmitting a mobile IP registration request message during a MAC connection establishment, in response to an agent advertisement of the first base station; and
- (e) receiving a mobile IP registration reply message during the MAC connection establishment.

2. (Withdrawn) The method as claimed in claim 1, wherein the steps (d) and (e) are performed through a secondary management connection.

3. (Withdrawn) The method as claimed in claim 2, wherein the mobile IP version information is a flag of the IP version parameter established as a mobile IPv4.

4. (Withdrawn) The method as claimed in claim 2, wherein the first base station operates as a home agent.

5. (Withdrawn) The method as claimed in claim 4, wherein the step (e) further comprises: the mobile subscriber station receiving an IP address and a home address assigned thereto.

6. (Withdrawn) A method for dynamic IP address allocation, which is for a first base station allocating a dynamic IP to a mobile subscriber station in a wireless portable Internet system, the method comprising:

- (a) the first base station performing initial ranging with the mobile subscriber station;
- (b) performing an authentication with the mobile subscriber station;
- (c) receiving a registration request message including a flag set as a mobile IP to check an IP version;
- (d) receiving a mobile IP registration request message from the mobile subscriber station during a MAC connection establishment, in response to an agent advertisement; and
- (e) transmitting a mobile IP registration reply message to the mobile subscriber station during the MAC connection establishment.

7. (Withdrawn) The method as claimed in claim 6, wherein the steps (d) and (e) are performed through a secondary management connection.

8. (Withdrawn) The method as claimed in claim 7, wherein the step (e) further comprises: assigning an IP address and a home address to the mobile subscriber station.

9. (Withdrawn) The method as claimed in claim 8, wherein the IP address is allocated from a DHCP (Dynamic Host Configuration Protocol) server.

10. (Currently Amended) A method for a subscriber station to move to a second base station from a first base station and register a mobile IP in a wireless portable Internet system, the method comprising:

- (a) the second base station and the mobile subscriber station performing a handover;
- (b) the mobile subscriber station performing a re-registration with the second base station;

(c) transmitting a re-registration request message including a flag ~~set as~~ showing whether to assign an address using a DHCP (Dynamic Host Configuration Protocol) or a mobile IP to the second base station;

(d) the mobile subscriber station acquiring a CO A (Care Of Address), ~~in response to~~ from an agent advertisement ~~transmitted of~~ from the second base station so as to assign an address using the mobile IP when the flag is set to assign an address using the mobile IP;

(e) the mobile subscriber station transmitting a mobile IP registration request message for an IP address allocated from the first base station during a MAC connection establishment;

(f) the second base station relaying the mobile IP registration request message to the first base station during the MAC connection establishment; and

(g) the first base station transmitting a reply message to the mobile IP registration request message to the mobile subscriber station via the second base station.

11. (Original) The method as claimed in claim 10, wherein the steps (d) to (g) are performed through a secondary management connection.

12. (Original) The method as claimed in claim 11, further comprising:  
binding the COA and the IP address allocated from the first base station.

13. (Original) The method as claimed in claim 12, wherein the first base station is set as a home agent, the second base station being set as a foreign agent.

14. (Currently Amended) A method for a subscriber station to move to a second base station from a first base station and register a mobile IP in a wireless portable Internet system, the method comprising:

(a) the second base station and the mobile subscriber station performing a handover;

(b) transmitting a registration request message including a flag ~~established by~~ showing

whether to assign an address using a DHCP (Dynamic Host Configuration Protocol) or a mobile IP to the second base station;

(c) the second base station determining whether the first and second base station have the same subset information;

(d) the second base station terminating transmission of an agent advertisement to the subscriber station when the first and second base station are found to have the same subset information; and

(e) registering a mobile IP through a secondary management connection so as to assign an address using the mobile IP when the flag is set to assign an address using the mobile IP and the first and second base station are found to have different subset information.

15. (Currently Amended) The method of claim 14, wherein (e) comprises:

the second base station transmitting the agent advertisement so as to assign an address using the mobile IP;

the subscriber station acquiring a COA (care of address) ~~in response to~~ from an agent advertisement transmitted from ~~of~~ the second base station;

the subscriber station transmitting a mobile IP registration request message on an IP address allocated by the first base station while establishing an MAC connection;

the second base station relaying the mobile IP registration request message to the first base station while establishing the MAC connection; and

the first base station transmitting a return message on mobile IP registration request message to the subscriber station through the second base station.

16. (Withdrawn) A dynamic IP address allocation method for a subscriber station to receive a dynamic IP address in a wireless portable Internet system, comprising:

(a) the subscriber station entering a first base station and performing initial ranging; performing authentication with the first base station;

(b) transmitting a registration request message further including a parameter for notifying usage of a mobile IP to the first base station;

(c) transmitting a mobile IP registration request message while establishing an MAC connection, in response to an agent advertisement of the first base station; and

(d) receiving the mobile IP registration request message while establishing the MAC connection.

17. (New) An apparatus for a wireless portable Internet system, the apparatus comprising:  
a first base station for performing a function of a home agent for a subscriber station;

a second base station for performing a function of a foreign agent for the subscriber station due to moving to the second base station from the first base station; and

the subscriber station for requesting a re-registration to the second base station through a re-registration message including a flag showing whether to assign an address using a DHCP (Dynamic Host Configuration Protocol) or a mobile IP when the subscriber station moves to the second base station from the first base station, acquiring a Care of Address (COA) from an agent advertisement of transmitted from the second base station when the flag is set to assign an address using the mobile IP and performing a mobile IP registration on the second base station during a Media Access Control (MAC) connection establishment,

wherein the second base station sends a mobile IP registration request including the COA to the first base station according to the mobile IP registration request of the subscriber station; and

wherein the first base station performs the mobile IP registration for the subscriber station according to the mobile IP registration request of the second base station.

18. (New) The apparatus of claim 17, wherein the agent advertisement and the mobile IP registration request are performed through a secondary management connection.

19. (New) The apparatus of claim 17, the mobile IP registration for the subscriber station on

the first base station is performed by binding the COA and a home address of the subscriber station.

20. (New) The apparatus of claim 17, wherein the second base station determines whether the first and second base station have the same subset information according to the mobile IP registration request of the subscriber station and performs the re-registration for the subscriber station when the first and second base station are found to have different subset information.

21. (New) An apparatus for a wireless portable Internet system, the apparatus comprising:  
a first base station for performing a function of a home agent for a subscriber station;  
a second base station for performing a function of a foreign agent for the subscriber station due to moving to the second base station from the first base station; and

the subscriber station for requesting a re-registration to the second base station through a re-registration message including a flag showing whether to assign an address using a DHCP (Dynamic Host Configuration Protocol) or a mobile IP when the subscriber station moves to the second base station from the first base station,

wherein the second base station performs a mobile IP registration through a secondary management connection in cooperation with the subscriber station when the flag is set to assign an address using the mobile IP and the first and second base station are found to have different subset information.

22. (New) The apparatus of claim 21, wherein the second base station transmits an agent advertisement including a COA (care of address) to the subscriber station for the mobile IP registration and the subscriber station performs a mobile IP registration on the second base station during a Media Access Control (MAC) connection establishment.